MOTIVATION
The data entry requirements in the production planning exercises (PP 1 through PP 6) were minimized because much of the data already existed in the SAP system. This stored data, known as master data, simplifies the processing of business transactions. Examples for this were material master data, bills of materials, and routings.

In this case study, we will create consumption values for a finished product to plan and process a complete manufacturing cycle.

PREREQUISITES
Before you use this case study, you should be familiar with navigation in the SAP system.

In order to successfully work through this case study, it is not necessary to have finished the PP exercises (PP 1 through PP 6). However, it is recommended.

NOTES
This case study uses the Global Bike Inc. (G.B.I.) data set, which has exclusively been created for SAP UA global curricula.
CASE STUDY

Process Overview

**Learning Objective** Understand and perform a manufacturing process cycle

**Time** 140 min

**Scenario** In order to process a complete manufacturing process you will take on different roles within the GBI company, e.g. production supervisor, shop floor worker and plant manager. Overall, you will be working in the Materials Management (MM) and the Production Planning and Execution (PP) departments.

**Employees involved**
- Jun Lee (Production Supervisor)
- Hiro Abe (Plant Manager Dallas)
- Lars Iseler (Production Order Worker)
- Susanne Castro (Receiving Clerk)
- Sanjay Datar (Warehouse Employee)
- Michael Brauer (Shop Floor Worker 4)
- Jamie Shamblin (Cost Accountant)

Before you can start forecasting demand for your touring bike product group changes in the material master record of the bikes need to be maintained.

Afterwards you will create a 12-month sales and operations plan (SOP) for your product group, receive the production relevant goods from the storage location and issue goods to the production order.

In the last steps the completeness of the production is confirmed, produced goods are received in the storage location and costs assigned to the production order are reviewed.
For discrete manufacturing execution, you use the **Production Order** to specify:

- What is to be produced
- When production is to take place
- Which capacity is to process the order
- How much production costs

Production orders can be generated in the following ways:

- From a requirement generated in requirements planning, that is, by converting a planned order to a production order
- Using an assembly order
- Without any previous requirement, that is, by creating it manually

When a production order is created the following actions are carried out:

- A routing is selected, its operations and sequences are transferred to the order
- The bill of materials is exploded and the items in the bill of material are transferred to the order
- Reservations are generated for bill of material items held in stock
- The planned costs for the order are generated
- The capacity requirements are generated for the work centers
- Purchase requisitions are generated for non-stock items and externally-processed operations
- Purchase orders are sent to suppliers to obtain the required materials.
CASE STUDY

Change Material Master Record

**Task** Prepare a material master record for Demand Planning.  

**Time** 20 min

**Short Description** In order to plan GBI’s deluxe touring bikes (black, silver and red) prepare their material master records by changing the MRP 3 and Forecast view.

**Name (Position)** Jun Lee (Production Supervisor)

To change a material’s view, follow the menu path:

**Menu path**

Logistics ► Production ► Master Data ► Material Master ► Material ► Change ► Immediately (MM02)

In the Material field, find and select your red Deluxe Touring bike first.

If you do not remember its material number, position your cursor in the Material field and click the search icon or press F4. Make sure you are on the Material by Material Type tab. Select Material Type **Finished Product** (FERT) and enter *### in the Material field. Remember to replace ### by your three-digit number given by your instructor, e.g. *005 if your number is 005. Then, press **Enter** and select the red Deluxe Touring bike with a double click.

When your material number (DXTR3###) is entered in the Material field, click or press **Enter**.

On the following screen, select **MRP 3** and **Forecast**.

![Change Material (Initial Screen)](image-url)

**DXTR3###**

When your material number (DXTR3###) is entered in the Material field, click or press **Enter**.

On the following screen, select **MRP 3** and **Forecast**.
Then, press **Enter** or click ✓. The following screen will appear.

Find and select the GBI manufacturing facility in Dallas (**DL00**). Then, enter its Finished Goods Stor. Location (**FG00**). Press **Enter** or click ✓.

In the MRP 3 view, enter Strategy group **40** (Planning with final assembly), Consumption mode **1** (Backward consumption only) and Bwd.consumption per. **30**.

Click ✓ to continue to the forecasting tab. Then, press **Enter** to acknowledge the warning message to check the consumption periods.

On the Forecasting tab, select Initialization pds **12**, uncheck **Reset automatically**, select Optimization level F (Fine), Alpha factor **0.20**, Beta factor **0.10**, Gamma factor **0.30**, and Delta factor **0.30**.

Compare your entries with the screen capture shown below.
Historic consumption values already have been entered into the GBI system. You can view them on the Forecasting tab, select . If you do not see the Total consumption column, press on . Within the table you will see the Total Consumption for the periods 04/2010 to 03/2014. These values form the base for later forecasts within this case study.

Please note that within a productive system these values would have been updated based on the goods moved out of storage.

Click to return to the overview.

Click to save your entries for the red bike.

Repeat the same procedure for the silver and the black deluxe touring bike material master. Start with the silver bike (DXTR2###), then modify the black bike (DXTR1###).

Click the Exit icon to return to the SAP Easy Access screen.
CASE STUDY

Change Routing

**Task** Change a routing for a finished good.

**Short Description** Change the routing for your red Deluxe Touring bike.

**Name (Position)** Jun Lee (Production Supervisor)

After the operational steps are laid out, the components must be allocated to the individual operations. This is a progressive process where each operation builds off the materials that entered production in the previous operations.

To change a routing, follow the menu path:

**Logistics ► Production ► Master Data ► Routings ► Routings ► Standard Routings ► Change**

Enter the material number for your red Deluxe Touring bike (DXTR3###). In the Plant field, enter GBI’s Dallas plant number (DL00). Please ensure that the Group field is empty. Then, press **Enter** or click ![edit](edit.png).

<table>
<thead>
<tr>
<th>Change Routing: Operation Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
</tr>
<tr>
<td>Seq. Count</td>
</tr>
</tbody>
</table>

**Component allocation**

To change a routing, follow the menu path:

**Logistics ► Production ► Master Data ► Routings ► Routings ► Standard Routings ► Change**

Enter the material number for your red Deluxe Touring bike (DXTR3###). In the Plant field, enter GBI’s Dallas plant number (DL00). Please ensure that the Group field is empty. Then, press **Enter** or click ![edit](edit.png).

Choose ![Component](Component.png) and select the following two materials.

<table>
<thead>
<tr>
<th>Material</th>
<th>DXTR3###</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Attach seat to frame</td>
</tr>
<tr>
<td>Material</td>
<td>DXTR3###</td>
</tr>
<tr>
<td>Description</td>
<td>Attach handle bar assembly</td>
</tr>
<tr>
<td>Material</td>
<td>DXTR3###</td>
</tr>
<tr>
<td>Description</td>
<td>Attach front and rear wheel to frame</td>
</tr>
<tr>
<td>Material</td>
<td>DXTR3###</td>
</tr>
<tr>
<td>Description</td>
<td>Attach brake</td>
</tr>
<tr>
<td>Material</td>
<td>DXTR3###</td>
</tr>
<tr>
<td>Description</td>
<td>Attach kickstand</td>
</tr>
</tbody>
</table>

Once you have selected the red touring frame (TRFR3###) and the touring seat kit (TRSK1###), choose **New Assignment**.

In the following screen, in the Oper./Act. field enter operation **0020** and press **Enter**. Back on the Material Component Overview screen, you see

<table>
<thead>
<tr>
<th>Item Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
</tr>
<tr>
<td>D</td>
</tr>
<tr>
<td>D</td>
</tr>
</tbody>
</table>

Choose ![Component](Component.png) and select the following two materials.

<table>
<thead>
<tr>
<th>Material</th>
<th>DXTR3###</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
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<td>Material</td>
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</tr>
<tr>
<td>Description</td>
<td>Attach brake</td>
</tr>
<tr>
<td>Material</td>
<td>DXTR3###</td>
</tr>
<tr>
<td>Description</td>
<td>Attach kickstand</td>
</tr>
</tbody>
</table>

Once you have selected the red touring frame (TRFR3###) and the touring seat kit (TRSK1###), choose **New Assignment**.

In the following screen, in the Oper./Act. field enter operation **0020** and press **Enter**. Back on the Material Component Overview screen, you see
that now both components have been assigned to operation 0020 (You may need to scroll the window to the right to view the Oper./Acc. Field) Click and drag to reduce the width of the Quantity field, if necessary, so both the Component field and the Oper./Acc. field display.

Repeat the same process for the other components and assign them to operations as shown below.

<table>
<thead>
<tr>
<th>Component</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRHB1### (touring handle bar)</td>
<td>0030</td>
</tr>
<tr>
<td>TRWA1### (touring aluminum wheel assembly)</td>
<td>0040</td>
</tr>
<tr>
<td>DGAM1### (derailleur gear assembly)</td>
<td>0040</td>
</tr>
<tr>
<td>CHAN1### (chain)</td>
<td>0050</td>
</tr>
<tr>
<td>BRKT1### (brake kit)</td>
<td>0060</td>
</tr>
<tr>
<td>PEDL1### (pedal assembly)</td>
<td>0070</td>
</tr>
<tr>
<td>WDOC1### (warranty document)</td>
<td>0100</td>
</tr>
<tr>
<td>PCKG1### (packaging)</td>
<td>0100</td>
</tr>
</tbody>
</table>

Do a screen capture of the results in your Material Component Overview screen with <Alt>-<PrtScr>. Make sure you include the Status Bar in your screen capture and that it displays your SAP User logon name. Be sure to do this before the next step!

What is your routing group _______________

Click  and save your entries with .

Click the Exit icon to go back to the SAP Easy Access Menu.
Display Product Group

**Task** Display a product group.  

**Short Description** Display the product group (product family) for all your Deluxe Touring bikes.

**Name (Position)** Jun Lee (Production Supervisor)

A product group (product family) supports high-level planning. This way, it is not necessary to delve into the minutia of creating planning forecasts for every material in the company.

To display the deluxe touring bike product group, follow the menu path:

**Logistics ➤ Production ➤ SOP ➤ Product Group ➤ Display (MC85)**

In the Display Product Group: Initial Screen, in the Product group field find and select your group for deluxe touring bikes. In order to do so, press the search icon (or pressed F4), enter ###* in the Material description field. Remember to replace ### with your three-digit number, e.g. enter 009* if your number is 009.

Then, press **Enter** or click ☑️ to display the search results. You should see five product groups already defined for your set of material master data (compare with the screen shown below).
Double-click the line for deluxe touring bicycles to select the group.

Now that the correct product group (PG-DXTR###) is filled in, make sure that Plant DL00 is entered. Then, press Enter to display the product group details.

On this screen you can see that this product group defines proportions for three different bikes: the black, silver and red deluxe touring bike. For the black bike a share of 40% will be considered and 30% for the silver and the red bikes each.

Do a screen captures of your Display Product Group screen. Make sure you include the Status Bar in your screen capture and that it displays your SAP User logon name.

Click the Product grp. graphic button on the Application toolbar to display it. Zoom in to the main content of the graphic. Then do a screen capture of your graphic display. Make sure you include the Status Bar in your screen capture and that it displays your SAP User logon name.

Click the Exit icon to return to the SAP Easy Access screen.
Create Sales and Operations Plan

Task Create a sales and operations plan for a product group.

Short Description Create a 12-month sales and operations plan (SOP) for your product group.

Name (Position) Jun Lee (Production Supervisor)

A sales and operations plan (SOP) is a planning tool used to consolidate data for forecasting future sales and production levels as well as the methods needed to meet those requirements. In this task, our SOP will be based on historical consumption values taken from a fixed period. This is in contrast to forecasting within a real life system which would base the prediction on previous periods and their respective consumption.

To create an SOP, follow the menu path:

**Logistics ► Production ► SOP ► Planning ► For Product Group ► Change (MC82)**

Make sure that Product group **PG-DXTR###** and Plant **DL00** are entered. Then, select [Active version]. Record the version number:  __________

In the system menu, select:

**Edit ► Create sales plan ► Forecast…**

Select **Period intervals**, Forecast from **current period/current year** to **previous period/next year**, Historic Data from **04/2010** to **03/2014**, Forecast execution **Aut. model selection**. Compare your screen with the one below before clicking on **Forecasting**.
If needed, click ![checkmark] and continue through **warning messages**.

The system selected Trend and season. Click ![Forecasting](file://) to go back to the results screen.

In the next screen, choose ![Interactive Graphics](file://) (Interactive Graphics). The SAP Statistics Graphics and SAP Material Graphics window display. Do a screen captures of the SAP Statistics Graphics screen. Make sure you include the Status Bar in your screen capture and that it displays your SAP User logon name.

Click ![back](file://) to go back to the results screen.
You can see that the system tested and found Seasonal and Trend tendencies in the past consumption data and has applied a Seasonal Trend Model.

Click 🔄 (Copy and Save). The sales forecast is copied into your Sales and Operations Plan.

As Target day’s supply enter 5 for each forecasted period (a total of 12 months).

In a production plan, you plan the quantities you need to produce in order to meet your sales plan. The system then calculates stock levels and days’ supply for each period on the basis of the sales and production quantities and any target data. There are several different planning strategies available, which differ in the production values and the stock level changes.

As the SOP is a high level planning, discrete production values are not necessary. The SAP system calculates discrete numbers once the SOP is transferred to the Demand Management.
In the system menu, select:

**Edit ➤ Create productn plan ➤ Synchronous to sales**

Note the change in the Production and in the Stock level lines. The production plan is created to match the sales forecast.

In the system menu, select

**Edit ➤ Create productn plan ➤ Target day’s supply**

Note the impact on the production plan and stock levels. Production levels are generated to match the sales plus produce enough to put into stock to meet the target days of supply specifications.

Review the Planning Table (your numbers may be different then this table). Do a screen capture of the Rough-Cut Plan screen. Make sure you include the Status Bar in the screen capture and that it includes your SAP User logon name.

![Change Rough-Cut Plan](image)

**Note** Although the screen displays integer production values, the SAP system calculates with decimal accuracy. You can display the decimal places by highlighting a row and pressing `<F8>` and enter the amount of decimal places required. Then (re)create the production plan.

Click ![Characteristics](image) to review a graphic representation of your planning table.

Do a screen captures of the Statistics Graphic For Planning Table. Make sure you include the Status Bar in your screen capture and that it displays your SAP User logon name.
You may click [Legend] to display a legend for this graphic.

Click the **Exit** icon to return to the SAP Easy Access screen.
Transfer SOP to Demand Management

**Task**  Transfer SOP to Demand Management.

**Short Description**  Transfer the Sales and Operations Plan to Demand Management.

**Name (Position)**  Jun Lee (Production Supervisor)

Demand Management is the tool used to disaggregate planning data from high-level plans down to the detailed planning level. For this task, planning for the Deluxe Touring Product Group will be broken down into the individual components that belong to this group.

To transfer the SOP to Demand Management, follow the menu path:

**Logistics ► Production ► SOP ► Disaggregation ► Transfer PG to Demand Management (MC75)**

Enter Product group **PG-DXTR###**, Plant **DL00**, and the version saved in the previous task (**A00**).

![Transfer Planning Data to Demand Management](image)

Select **Prod.plan for mat. or PG members as proportion of PG** and **Active**. Then, deselect the **Invisible Transfer** indicator to present the disaggregation results on another screen allowing the planner to modify the results before saving them manually to Demand Management.
Select Transfer now and examine the Planned Independent Requirements generated for DXTR1###.

Do a screen capture of Plnd Ind Reqmts: Planning screen. Make sure you include the Status Bar in your screen capture and that it displays your SAP User logon name.

Then, click to save.

Examine the Planned Independent Requirements for DXTR2### display. Examine them and then save them with .

Finally, examine the requirements for DXTR3### and save them with .

Note DXTR1### makes up 40%, DXTR2### makes up 30% and DXTR3### another 30% of the production plan created in your Sales and Operations Plan. How is this derived?

Click the Exit icon to return to the SAP Easy Access screen.
Review Demand Management

**Task** Review the requirements for a product group.  

**Short Description** Review the requirements for the product group to ensure that there are production requirements for the individual production items.

**Name (Position)** Hiro Abe (Plant Manager Dallas)

To review planned requirements, follow the menu path:

Logistics ▶ Production ▶ Production Planning ▶ Demand Management ▶ Planned Independent Requirements ▶ Display

Select the **Product group** indicator, enter Product group **PG-DXTR###**, Plant **DL00**, and select **(Enter)**.

On the Table tab, review the Planned Independent Requirements for the Deluxe Touring bike product group by material. (Your data may differ.)

On the **Sched. lines** tab, review the requirement dates, planned quantities, values, and total planned quantities.
Do a screen capture of your Plnd Ind. Reqmts Display: Schedule Lines for the red Deluxe Touring Bicycle. Make sure you include the Status Bar in your screen capture and that it displays your SAP User logon name.

Select ▶ (Next item) to move to the next material.

Click the Exit icon 🚪 to return to the SAP Easy Access screen.
Run MPS with MRP

**Task** Run Master Production Scheduling (MPS).

**Short Description** Run Master Production Scheduling (MPS) to generate a series of planned orders that satisfy the requirements from SOP and demand management. Concurrently with MPS, the MRP materials will be processed leading to the generation of planned orders for dependent requirements that have been created by the BOM explosion process.

**Name (Position)** Jun Lee (Production Supervisor)

To run Master Production Scheduling, follow the menu path:

**Logistics ► Production ► Production Planning ► MPS ► Single-Item, Multi-Level (MD41)**

Enter your material **DXTR3###**, Plant **DL00**, Processing key **NETCH**, select **2** (Purchase requisition in opening period), **3** (Schedule lines), **1** (MRP list), **1** (Adapt planning data (normal mode)), and **1** (Determination of Basic Dates for Planned). Then, select **Display material list**.

![Single-Item, Multi-Level](image)

Select **(Enter)**. A warning message will appear asking you to check input.
parameters. Press Enter to confirm and bypass the warning message.

To start the planning run, click 🔄 (Continue) and review the planning details from the List Display.

Do a screen capture of your Single-Item, Multi-Level results. Be sure to include the Database Statistics, Planned orders created, and Dependent requirements created. Make sure you include the Status Bar in your screen capture and that it displays your SAP User logon name.

Click the Exit icon 🛑 to return to the SAP Easy Access screen.
Review Stock/Requirements List

**Task**  Review the Stock/Requirements List.  
**Short Description**  Review the Stock/Requirements List for your deluxe touring bike.  
**Name (Position)**  Lars Iseler (Production Order Worker)

The Stock/Requirements List is a dynamic list which dynamically changes whenever a transaction occurs using the given material. Display and review the Stock/Requirements List for all materials of the red deluxe touring bike on hand and the demand that exists against these products. The report shows that there is no stock and therefore nothing is available for use at this time.

To review the Stock/Requirements List, follow the menu path:

**Logistics**  ►  **Production**  ►  **Production Planning**  ►  **MPS**  ►  **Evaluations**  ►  **Stock/Reqmts List (MD04)**

On the Individual access tab, enter Material **DXTR3###** and Plant **DL00** and click **(Enter)**. This will allow you to see the status of all products within your planning group.
Choose (Switch to Period Totals). This will allow you to see the planned independent requirements, planned receipts, and ATP quantities based on time; days, weeks, or months.

### ATP quantity (LO)

**Logistics - General (LO)**

The quantity available to MRP for new sales orders.

The ATP (Available-to-promise) quantity is calculated according to the following formula:

ATP quantity = warehouse stock + planned receipts - planned issues.

### Stock/Requirements List: Period Totals as of 11:31 hrs

<table>
<thead>
<tr>
<th>Material</th>
<th>MRP element data</th>
<th>Requirement</th>
<th>Receipts</th>
<th>Available Qua...</th>
<th>ATP quant...</th>
<th>Actu...</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCTK0000</td>
<td>Deluxe Touring Bike (kit)</td>
<td>PldOrd</td>
<td>0</td>
<td>0</td>
<td>23.0</td>
<td></td>
</tr>
<tr>
<td>05/01/14</td>
<td>101</td>
<td>0</td>
<td>101</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>05/01/14</td>
<td>0</td>
<td>0</td>
<td>101</td>
<td>0</td>
<td>101</td>
<td>D.0</td>
</tr>
<tr>
<td>05/30/14 End of Planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/01/14</td>
<td>92</td>
<td>0</td>
<td>92</td>
<td>0</td>
<td>92</td>
<td>0.0</td>
</tr>
<tr>
<td>08/01/14</td>
<td>105</td>
<td>0</td>
<td>105</td>
<td>0</td>
<td>105</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Select (to go back to the individual lines.

To view the details of the first planned order (PldOrd), select (Element Details).
Select (Pegged Requirements).

You can see that this planned order is to fulfill our Safety Stock and the first planned independent requirement that was created when we disaggregated our SOP.

Select (Graphic) on the Application toolbar to see a graphical view of this information.

Do a screen capture of your Graphic. Make sure you include the Status Bar in your screen capture and that it displays your SAP User logon name.

Click the Exit icon twice to return to the SAP Easy Access screen.
CASE STUDY

Convert Planned Order into Production Order

Task Convert a planned order into a production order.

Short Description Convert a planned order generated in the MPS/MRP run to a production order. The stock requirements list displays the suggested planned orders from the MPS run.

Name (Position) Lars Iseler (Production Order Worker)

To convert planned orders into production orders, follow the menu path:

Logistics ▶ Production ▶ MRP ▶ Evaluations ▶ Stock/Requirements List (MD04)

Enter Material DXTR3###, Plant DL00, and click ➤ (Enter). Then, double-click the second planned order.

In the Additional Data screen, click ➤ (Convert planned order to production order).

![Production order Create: Header](image)

What is the value for the Total Qty? __________________
You will need this value later when confirming your order.

Determine the status of your order by clicking on ✔. What does this mean?

7 - 12
Note When you converted the planned order to a production order scheduling takes place, an availability check was automatically carried out and a reservation was placed on the materials specified within the bill of materials. The order was also automatically released when the production order was created.

Click 🗡️ to go back to the header screen and save your production order with 🇮️.

Note When you save the production order the system will automatically calculate the planned costs for the production order and the production order is given a number.

Record your production order number _________________.

Select 🔄 (Refresh) to refresh the Stock/Requirements List. In the MRP Element column the planned order PldOrd that you selected should now have changed into a production order PrdOrd.

Record your production order number _____________________.

Do a screen capture of your Stock Requirements List. Make sure you include the Status Bar in your screen capture and that it displays your SAP User logon name.

Click the Exit icon 🎈 to return to the SAP Easy Access screen.
**Task** Receive goods in the Dallas plant.

**Short Description** Receive enough goods in the Dallas storage locations to start the production process.

**Name (Position)** Susanne Castro (Receiving Clerk)

Usually, at this point the purchasing department in Dallas would take over and procure enough raw materials from vendors to fill the inventory so that the production process can be initiated. In this case study, we are bypassing this procurement process (this process is explained in the MM unit in detail). Because the inventory for all DXTR3### components is empty, we will assume that we find 500 pieces each in the storage location.

To receive goods in the inventory, follow the menu path:

**Logistics** ► **Materials Management** ► **Inventory Management** ► **Goods Movements** ► **Goods Receipt** ► **Other (MB1C)**

Make sure you click **Other** and not on **Order (MIGO)**. This should produce the following screen.

**Enter Other Goods Receipts: Initial Screen**

Enter **today** as Document and Posting Date, Movement Type **561** (Receipt per initial entry of stock balances into unr.-use), Plant **DL00**, and leave Storage Location blank. Then, press **Enter** or click **.**
list of data entry lines are all full, then use <PgDn> and <PgUp> to view the other lines for Item entries

<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity</th>
<th>SLoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRWA1### (Touring Aluminum Wheel Assembly)</td>
<td>500</td>
<td>SF00</td>
</tr>
<tr>
<td>TRFR3### (Touring Frame-Red)</td>
<td>500</td>
<td>RM00</td>
</tr>
<tr>
<td>DGAM1### (Derailleur Gear Assembly)</td>
<td>500</td>
<td>RM00</td>
</tr>
<tr>
<td>TRSK1### (Touring Seat Kit)</td>
<td>500</td>
<td>RM00</td>
</tr>
<tr>
<td>TRHB1### (Touring Handle Bar)</td>
<td>500</td>
<td>RM00</td>
</tr>
<tr>
<td>PEDL1### (Pedal Assembly)</td>
<td>500</td>
<td>RM00</td>
</tr>
<tr>
<td>CHAN1### (Chain)</td>
<td>500</td>
<td>RM00</td>
</tr>
<tr>
<td>BRKT1### (Brake Kit)</td>
<td>500</td>
<td>RM00</td>
</tr>
<tr>
<td>WDOC1### (Warranty Document)</td>
<td>500</td>
<td>RM00</td>
</tr>
<tr>
<td>PCKG1### (Packaging)</td>
<td>500</td>
<td>RM00</td>
</tr>
</tbody>
</table>

Before pressing Enter compare your screen with the screenshot shown below. Remember that your material numbers are different.

<table>
<thead>
<tr>
<th>Item</th>
<th>Material</th>
<th>Quantity</th>
<th>SLoc</th>
<th>Batch</th>
<th>Re</th>
<th>Pint</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TRWA1000</td>
<td>500</td>
<td>SF00</td>
<td></td>
<td></td>
<td>D100</td>
</tr>
<tr>
<td>2</td>
<td>TRFR3000</td>
<td>500</td>
<td>RM00</td>
<td></td>
<td></td>
<td>D100</td>
</tr>
<tr>
<td>3</td>
<td>DGAM1000</td>
<td>500</td>
<td>RM00</td>
<td></td>
<td></td>
<td>D100</td>
</tr>
<tr>
<td>4</td>
<td>TRSK1000</td>
<td>500</td>
<td>RM00</td>
<td></td>
<td></td>
<td>D100</td>
</tr>
<tr>
<td>5</td>
<td>TRHB1000</td>
<td>500</td>
<td>RM00</td>
<td></td>
<td></td>
<td>D100</td>
</tr>
<tr>
<td>6</td>
<td>PEDL1000</td>
<td>500</td>
<td>RM00</td>
<td></td>
<td></td>
<td>D100</td>
</tr>
<tr>
<td>7</td>
<td>CHAN1000</td>
<td>500</td>
<td>RM00</td>
<td></td>
<td></td>
<td>D100</td>
</tr>
<tr>
<td>8</td>
<td>BRKT1000</td>
<td>500</td>
<td>RM00</td>
<td></td>
<td></td>
<td>D100</td>
</tr>
<tr>
<td>9</td>
<td>WDOC1000</td>
<td>500</td>
<td>RM00</td>
<td></td>
<td></td>
<td>D100</td>
</tr>
<tr>
<td>10</td>
<td>PCKG1000</td>
<td>500</td>
<td>RM00</td>
<td></td>
<td></td>
<td>D100</td>
</tr>
</tbody>
</table>

Again, you may need to use <PgDn> and <PgUp> to scroll your screen.

Save your goods receipt with and record the material document number: ________________________

Then, click the Exit icon to return to the SAP Easy Access screen.
CASE STUDY

Issue Goods to Production Order

Task Issue goods to a production order.  
Time 10 min

Short Description Now that all necessary components are on stock issue them to your production order in precise quantity.

Name (Position) Sanjay Datar (Warehouse Employee)

The goods issue process is fully defined in the production order, BOM, and routing. The quantities and the materials are reserved for this specific production order, will be withdrawn with reference to the order number, and will be used to assign actual costs to the production order for managerial accounting purposes.

To issue goods to a production order, follow the menu path:

Logistics ► Production ► Shop Floor Control ► Goods Movements ► Goods Issue (MB1A)

This should produce the following screen.

Enter Goods Issue: Initial Screen

<table>
<thead>
<tr>
<th>Document Date</th>
<th>Posting Date</th>
<th>Material Slip</th>
<th>Doc Header Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/23/2014</td>
<td>06/23/2014</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Defaults for Document Items

<table>
<thead>
<tr>
<th>Movement Type</th>
<th>Plant</th>
<th>Special Stock</th>
<th>Reason for Movement</th>
<th>Suggest Zero Lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>261</td>
<td>DL00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Enter today as Document Date and Posting Date, Movement Type 261 (Consumption for order from warehouse), Plant DL00, and leave Storage Location blank. Then, click the To Order... button.

Enter your production order number from two tasks back. (See Convert Planned Order to Production Order)

If you have not written down your production order number you can find it in the system. In order to do so, in the Order field press F4 or click the search icon  
In the Order Number (1) screen, use the icon on the far right to display a list of all tabs. Please select the Production orders using the
Once you have found and entered your production order number, click ✞ to continue.

An itemized list will appear. It lists all the materials and their respective quantities that need to be issued to your order. You need to tell the system what Storage Location the materials should be withdrawn from. For the wheel assembly (TRWA1###), enter SF00 (Semi-finished goods) and for all other materials RM00 (Raw materials) in the SLoc fields. Before pressing Enter compare your screen with the one shown below.

<table>
<thead>
<tr>
<th></th>
<th>Item Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>SLoc</th>
<th>Item</th>
<th>Re</th>
<th>Flnt</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TRWA1000</td>
<td>184</td>
<td>EA</td>
<td>SF00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>TRFP2000</td>
<td>92</td>
<td>EA</td>
<td>RM00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>DCAM1000</td>
<td>92</td>
<td>EA</td>
<td>RM00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>TRS1000</td>
<td>92</td>
<td>EA</td>
<td>RM00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>TRWD1000</td>
<td>92</td>
<td>EA</td>
<td>RM00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>PED1000</td>
<td>92</td>
<td>EA</td>
<td>RM00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>TKAM1000</td>
<td>92</td>
<td>EA</td>
<td>RM00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>BRET1000</td>
<td>92</td>
<td>EA</td>
<td>RM00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>WDC1000</td>
<td>92</td>
<td>EA</td>
<td>RM00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>PCEG1000</td>
<td>92</td>
<td>EA</td>
<td>RM00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Click the **Adopt + Details** button on the Application toolbar. A series of screens will appear asking you to copy in the requirements for each of the dependent requirements. Click ✖ to accept the details for each material. If the Stor.Loc is requested, use those values from Receive Goods into Inventory.

Finally, on the Enter Goods Issue: Overview screen you will see all of the goods issue quantities for each of the materials.
Use \textless PgDn\textgreater{} or \textless PgUp\textgreater{}, as needed, to view other lines for Item entries. Then, click \textcolor{blue}{\textbf{(Post)}} and record the material document number: 

Click the \textcolor{red}{Exit} icon to return to the SAP Easy Access screen.
### Review Production Order Status

**Task** Review the production order status.  
**Short Description** Review the current production order with respect to the status of the order.  
**Name (Position)** Michael Brauer (Shop Floor Worker 4)

To display the production order, follow the menu path:

**Logistics ► Production ► Shop Floor Control ► Order ► Display (CO03)**

Enter the number of your production order. (See *Convert Planned Order into Production Order*).

If you have not written down your production order number you can find it in the system. In order to do so, in the Order field press **F4** or click the search icon ![search](image). In the Order Number (1) screen, use the icon on the far right ![open](image) to display a list of all tabs. Please select the Production orders using the info system tab. On this tab, enter your material **DXTR3###** in the Material field and click ![select](image). Double-click the result row to adopt your production order number into the initial screen.

When your production order number is entered, click ![check](image). Note that the order status has changed and review it by clicking on ![check](image) again.

You did a goods issue to the production order in the last task. Now, you want to review the cost assigned to the order, the material document, and the corresponding accounting document.
In order to do so, click to go back to the header screen and then in the system menu select:

Goto ► Costs ► Analysis

Here you can see the costs that were assigned to the production order from our goods issue.

Do a screen capture of your Cost Element display. Make sure you lines displayed in the total cost. Make sure you include the Status Bar in your screen capture and that it displays your SAP User logon name.

Click the Exit icon to go back to the SAP Easy Access menu.
CASE STUDY

Confirm Production Completion

Task  Confirm production order completion.  Time 10 min

Short Description  Confirm completion for your production order.

Name (Position) Michael Brauer (Shop Floor Worker 4)

When the assembly has been completed for the current production order, we need to confirm that certain procedures and activities have been completed and record the quantity of the end product that has been manufactured.

To confirm production completion, follow the menu path:

Logistics ► Production ► Shop Floor Control ► Confirmation ► Enter ▶ For Order (CO15)

Enter your production order number and click ✅. (See Convert Planned Order into Production Order)

Select Final Confirm. and Clear Reservation. In the Yield to conf. field, enter the amount of bikes you were supposed to produce for this order. Remember that your amount might differ from the screen below.

<table>
<thead>
<tr>
<th>Confirmation of Production Order Enter : Actual Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order: 1000020</td>
</tr>
<tr>
<td>Material Number: 01XR3000</td>
</tr>
</tbody>
</table>

**Confirmation Type**
- [ ] Partial Confirm.
- [ ] Final Confirm.
- [ ] Aut. Final Conf.
- [ ] Clear Reservation

<table>
<thead>
<tr>
<th>Actual Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield to conf.</td>
</tr>
<tr>
<td>Confirmed scrap</td>
</tr>
<tr>
<td>Rework</td>
</tr>
<tr>
<td>Reason for Var.</td>
</tr>
</tbody>
</table>

In the Actual Data section, what is the value of the Yield to conf. for the Current to Confirm?  ___________________

Then, change the Execution start to 1 hour earlier than the default time.

1 hour earlier
Click ✔️ and save your entries with 📋.

**Note** When the confirmation is saved, labor costs for the order are calculated automatically. The quantity yield also establishes the parameters for the goods receipt into Inventory.

Do a screen capture of the confirmation. Be sure you include the Status Bar in your screen capture and that it displays your SAP User logon name.

What is the confirmation order number ________________________

Click the **Exit** icon 🏸 to return to the SAP Easy Access screen.
Receive Goods from Production Order

**Task** Post a goods receipt from production order.

**Short Description** Post a goods receipt from your production order.

**Name (Position)** Susanne Castro (Receiving Clerk)

Receive the completed products into finished goods inventory. Check the quantity purposed against the quantity specified in the production order and the quantity specified during confirmation. If there are any discrepancies, the system will decide if an error or warning message should be generated depending upon the deviation identified.

To post a goods receipt, follow the menu path:

**Logistics ► Production ► Shop Floor Control ► Goods Movements ► Goods Receipt (MB31)**

This produces the following screen.

---

**Goods Receipt for Order: Initial Screen**

- **Document Date**: 06/23/2014
- **Posting Date**: 06/23/2014
- **Delivery Note**: 
- **Doc. Header Text**: 
- **Movement Type**: 101
- **Order**: 1000020
- **Plant**: DL00
- **Stor. Location**: FG00
- **Reason for Movement**: 
- **Suggest Zero Lines**: 

Enter Movement Type **101** (Goods receipt for order to warehouse), your **production order number**, Plant **DL00**, Stor. Location **FG00** (Finished Goods), and select **Adopt + Details**.
Ensure that the quantity to be placed into inventory and the storage location are correct. Then, click the [±] button to accept the details for the new bikes received from production.

In the overview screen, review the item to ensure that all the data is correct.

- Movement Type → 101 (goods receipt into Inventory)
- Storage Location → FG00 (Inventory)
- Quantity → should equal the amount that you confirmed in the previous task

Click the [±] button to post the goods receipt. When you save this material document the actual value of the material produced was entered into the production order.

Record the material document number: _____________________.

Click the Exit icon to return to the SAP Easy Access screen.
CASE STUDY

Review Costs Assigned to Production Order

Task  Review costs assigned to your production order.  

Time  5 min

Short Description  Display and review the costs that have been assigned to your production order.

Name (Position)  Jamie Shamblin (Cost Accountant)

To display costs assigned, follow the menu path:

Logistics ► Production ► Shop Floor Control ► Order ► Display (CO03)

Enter your production order number, and click (Enter). (See Convert Planned Order to Production Order)

In the system menu, select:

Goto ► Costs ► Analysis

Now that the finished products have been received in the Inventory, the Manufacturing Output Settlement Variance has been added. How is this figure calculated by the system?

Click the Exit icon to return to the SAP Easy Access screen.
CASE STUDY

Settle Costs of Production Order

**Task** Settle costs of your production order.

**Short Description** Settle the costs of your production order. The costs are temporarily captured in the production order and they need to be assigned to an appropriate cost object. Compare the actual costs to the planned costs to identify any deviations or potential problems in this regard.

**Name (Position)** Jamie Shamblin (Cost Accountant)

To settle costs of a production order, follow the menu path:

**Logistics ► Production ► Shop Floor Control ► Period-End Closing ► Settlement ► Individual Processing (KO88)**

If you have to input the Controlling Area, enter **NA00**, and click **✔**.

Enter your **production order number**, the **current month** as Settlement period (e.g. 07 for July), the **current month** as Posting period, and the **current year** as Fiscal year. Make sure that **Test Run** is selected.

Then, click **Execute** on the Application toolbar.
CASE STUDY

Click **(Detail lists)**. In the system menu, choose:

**Environments ► Report**

Then, double-click **Actual/Plan/Variance** to select the report.

![Select Report](image)

Because no cost planning has been taking place before the production order was executed, the variance between actual and plan costs equals the actual costs.

What is the Actual Deliveries to Stock value? _________________

What is the Actual Settlement unit? ________________

Deselect **Test Run** and execute again with **(Detail lists)** and select **(Report)**. Choose report **Actual/Plan/Variance**.
**Case Study**

The manufacturing output settlement is higher than the consumption expenses for raw materials and semi-finished goods? Review and explain the expenses and the settlements of your production order in detail. How is the balance derived?

<table>
<thead>
<tr>
<th>Cost Elements</th>
<th>Actual</th>
<th>Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>720000 RE Consum Exp</td>
<td>44,114.00</td>
<td>44,114.00</td>
</tr>
<tr>
<td>720300 SF Consum Exp</td>
<td>20,240.00</td>
<td>20,240.00</td>
</tr>
<tr>
<td>800000 Labor</td>
<td>2,301.75</td>
<td>2,301.75</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td>66,655.75</td>
<td>66,655.75</td>
</tr>
<tr>
<td>741700 Nac Output Sett Var</td>
<td>62,104.25</td>
<td></td>
</tr>
<tr>
<td><strong>Settled Costs</strong></td>
<td>62,104.25</td>
<td></td>
</tr>
<tr>
<td>741700 Nac Output Sett Var</td>
<td>128,850.00-</td>
<td></td>
</tr>
<tr>
<td><strong>Deliveries to Stock</strong></td>
<td>128,850.00-</td>
<td></td>
</tr>
<tr>
<td><strong>Balance</strong></td>
<td>66,655.75</td>
<td></td>
</tr>
</tbody>
</table>

Click 🎯, choose **Yes** and click 🎯 again to return to the SAP Easy Access screen.

Yes